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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,758	02/09/2004	Matthew P. Crowley	10519-114	1195
67813 7590 06/28/2007 BRINKS HOFER GILSON & LIONE/SanDisk P.O. BOX 10395 CHICAGO, IL 60610			EXAMINER BRITT, CYNTHIA H	
			ART UNIT 2117	PAPER NUMBER
			MAIL DATE 06/28/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/774,758

Applicant(s)

CROWLEY ET AL.

Examiner

/Cynthia Britt/

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.138(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 March 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 12-20 and 22-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 November 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

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DETAILED ACTION

Claims 1-28 are pending in the present application. Claims 12-20 and 22-28 are withdrawn from further consideration.

Election/Restrictions

Applicant's election without traverse of Group 1 claims 1-11 and 21 in the reply filed on 3/23/07 is acknowledged.

Specification

Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.

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Extensive mechanical and design details of apparatus should not be given.

The abstract of the disclosure is objected to because the abstract is not descriptive of the claimed invention. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-11 and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,903,427 Zhang.

As per claim 1, Zhang teaches the claimed chip-level architecture comprising: a monolithic three-dimensional write-once memory array (column 4 lines 13-25, column 27 lines 5-24); and at least two of the following system blocks: an Error Checking & Correction Circuit (ECC) (column 15 lines 17-32); a Checkerboard Memory Array containing sub arrays; a Write Controller (column 23 line 50 through column 24 line 22); a Charge Pump; a Vread Generator (column 5 lines 6-17 and column 16 line 40 through column 18 line 8) ; an

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Oscillator; a Band Gap Reference Generator; and a Page Register/Fault Memory (column 5 lines 33-45).

As per claim 2, Zhang teaches the invention of claim 1, further comprising a third system block. (See above)

As per claim 3 Zhang teaches the invention of claim 1, wherein one of the system blocks is the Vread Generator. (Column 5 lines 6-17 and column 16 line 40 through column 18 line8)

As per claim 4, Zhang teaches the Vread Generator provides a voltage to which a selected word line is driven during a read operation. (Column 5 lines 6-17 and column 16 line 40 through column 18 line8)

As per claim 5, Zhang teaches two control transistors per group of memory sub arrays are spatially distributed throughout the die to achieve reduced voltage drop along reference node Vread. (Column 5 lines 6-17 and column 16 line 40 through column 18 line8)

As per claim 6, Zhang teaches one of the system blocks is the write controller, and wherein groups of selected sub arrays are connected together by bidirectional data lines and are connected to the write controller. (Column 23 line 50 through column 24 line 22)

As per claim 7, Zhang teaches selected cells are in selected sub arrays, each of which has a coordinated row decoder for locating the selected cells (column 11 lines 1-20).

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As per claim 8, Zhang teaches one of the system blocks is the write controller (column 23 line 50 through column 24 line 22), and further comprising a fault memory and a logic block, wherein entries in the fault memory are determined by the write controller during the write operation and read by the logic block to activate a write operation to a redundant row (column 19 lines 14-35).

As per claim 9, Zhang teaches the connection between the groups of sub arrays and the write controller includes data lines and control lines, said lines which are at least partially formed on a level of wiring at or near a top surface of the memory array (column 10 lines 10-47).

As per claim 10, Zhang teaches the data and control lines are substantially parallel to memory array lines used for sensing data in memory cells. (Column 15 line 27 through column 16 line 24)

As per claim 11, Zhang teaches the selected sub arrays contain user data cells, ECC data cells and cells containing redundancy control bits (column 28 lines 30-65).

As per claim 21, Zhang teaches the claimed chip-level architecture comprising: a monolithic three-dimensional write-once memory array (column 4 lines 13-25, column 27 lines 5-24); ECC (column 15 lines 17-32); and smart write (column 23 line 50 through column 24 line 22).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Cited on form 892.

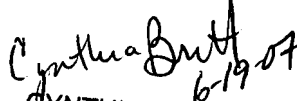
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia Britt whose telephone number is 571-272-3815. The examiner can normally be reached on Monday - Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jacques Louis-Jacques can be reached on 571-272-6962. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Cynthia Britt
Primary Examiner
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6-19-07
CYNTHIA BRITT
PRIMARY EXAMINER